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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,879

03/30/2004

Bin Wei

129545-1

2878

6147 7590 12/10/2007
GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

POPOVICS, ROBERT J

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

12/10/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ldocket@crd.ge.com
rosssr@crd.ge.com
parkskl@crd.ge.com

Office Action Summary

Application No.

10/708,879

Applicant(s)

WEI ET AL.

Examiner

Robert J. Popovics

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 3, 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13 and 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

Claims 1,3-13 and 15-24 are rejected under 35 U.S.C. 103 as being obvious over the combined teachings of Suzuki (US 5,221,467) and Corcelle (US 5,071,567). See Figures 4(a), 7(a), 8(a) and 15(a) each of which illustrates two stage filtration in an EDM:

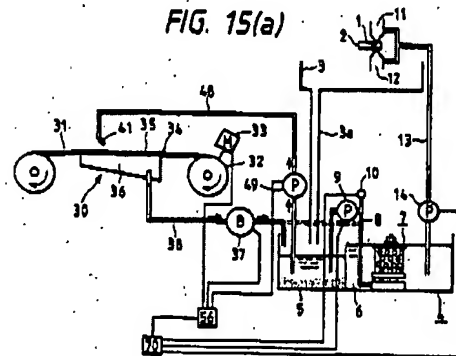
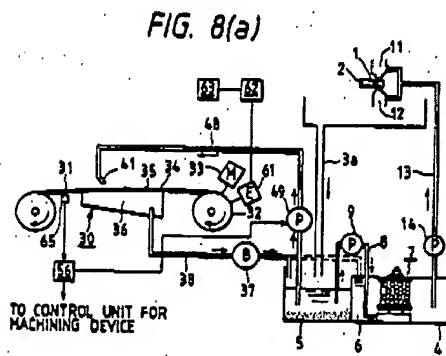
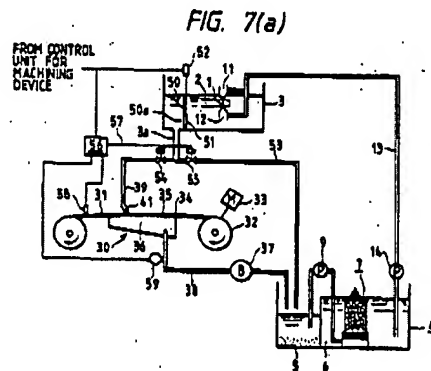
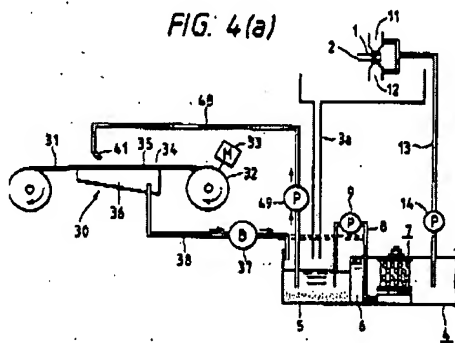
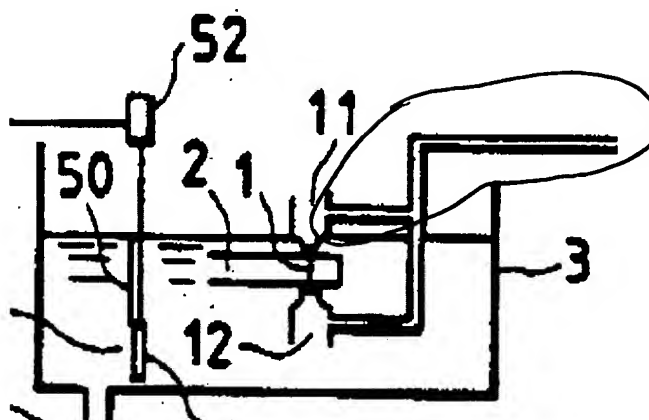
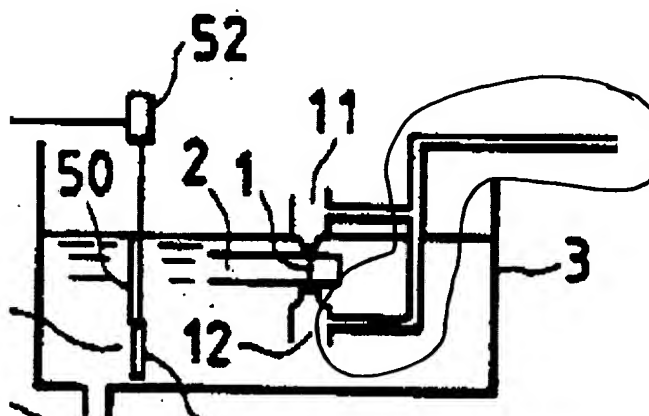


FIG. 7(a)



"First Path"

FIG. 7(a)



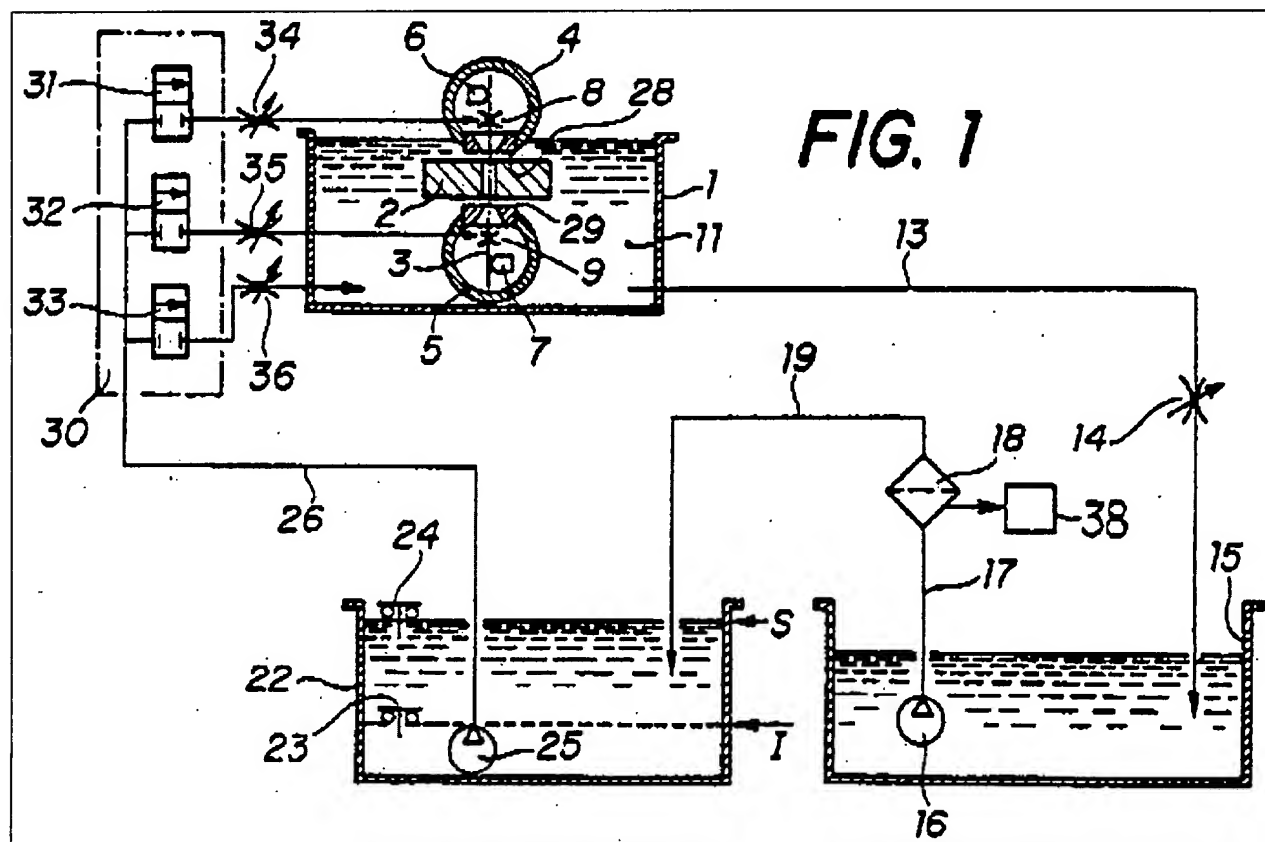
"Second Path"

The claims essentially differ from Suzuki by specifying a liquid adding inlet *"directly connected to said work tank."* Corcelle discloses a return line directly connected to said work tank as depicted in Fig. 1 of Corcelle:

U.S. Patent

Dec. 10, 1991

5,071,567



It would have been obvious to one skilled in the art to directly connect the inlet/line of Suzuki in view of the clear teaching of Corcelle. It is noted that the use of "guides" as recited in claims 5,11,12,17,23 and 24, is well known in the art. It is submitted that the use of a guide in the system of Suzuki would be inherent. Alternatively, it is submitted that the use of a guide in the system of Suzuki would have been obvious by virtue of the well known status of guides.

Claim Rejections - 35 USC § 103

Claims 1,3-13 and 15-24 are *alternatively* rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Suzuki (US 5,221,467) and Hosaka (US 6,533,927) and Corcelle (US 5,071,567). Hosaka discloses guide 13. The use of a guide in the system of Suzuki would have been obvious in view of the teachings of Hosaka. Corcelle discloses a return line directly connected to said work tank as depicted in Fig. 1 of Corcelle. It would have been obvious to one skilled in the art to directly connect the inlet/line of Suzuki in view of the clear teaching of Corcelle

The additional subject matter of claims 4,6,9,16 and 18 merely recite features which are conventional, or would have been readily apparent to those skilled in the art. It is noted that the use of sloped tank bottoms to direct accumulated debris is notoriously well known in the art. It is known that the use of control systems employing pressure sensors at various points in a system is notoriously well known in the art. The use of additional pumps and flowpath configurations would have been readily apparent to those skilled in the art for various reasons, including, but not limited to, reducing the size of the pump and/or piping, avoiding points of stagnation in either tanks, using materials on hand (as opposed to buying), redundancy, to permit cycling and/or maintenance of the pumps/lines, etc. Accordingly, claims 4,6,9,16,18 and 21 are not seen to patentably distinguish over the combined teachings of Suzuki (US 5,221,467) and Hosaka (US 6,533,927) and Corcelle (US 5,071,567).

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Response to Arguments

Applicant's arguments filed October 3, 2007 have been fully considered but they are not persuasive.

Applicants argue:

Independent Claims 1 and 13 specify, *inter alia*, a flushing and filtering system for an electroerosion machine comprising a first fluid return path comprising a high-pressure return path for introducing finely-filtered machining fluid through an electrode included in the electroerosion machine. Support for this feature can be found in at least Paragraph [0011] of the specification and Figures 1 and 2 of the drawings.

This is not found persuasive, especially in view of Applicants' Admissions that such a device is known in the art.

[0011] Referring now to FIG. 1, there is shown a schematic diagram of a flushing and filtering system 100 suitable for use for electroerosion machines, in accordance with an embodiment of the invention. As is shown, a work tank 102 contains workpiece 104 that is to be milled, shaped or otherwise machined by an electroerosion process. To this end, an electrode 106 is configured in close proximity to the workpiece 104 through a guide bush 108. As is known in the art, the electrode 106 has a machining liquid 110 continuously circulated at high pressure therethrough and introduced into a gap between the electrode 106 and the workpiece 104 for facilitating the machining operation.

From Applicants' Pre-Grant Publication

It is requested that Applicants identify the particular prior art being discussed in paragraph [0011] of their pre-grant publication. It is unclear why features that Applicants have admitted are known in the art have been argued to constitute patentably distinguishing features.

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Applicants have not challenged the Official Notice statements made by the examiner. Accordingly, those statements made by the examiner are now seen to constitute admitted prior art.

As for the applied art, structures 11 and 12 of Suzuki are seen to constitute electrodes.

Applicants additionally argue:

Further, there are significant system and operational differences between the electroerosion apparatus and process of the claimed invention and the prior art EDM apparatus and process. In the electroerosion apparatus and process, the electrode spins and feeds simultaneously, while the wire in the EDM process only travels linearly. Because of this difference, the electroerosion apparatus and process uses internal flushing through the front surface of the electrode to wrap the fluid around the machining zone, while the EDM process uses external flushing in the same direction of wire travel to remove chips outside the machining zone.

For at least this reason, a person of ordinary skill in the art having common sense at the time of the invention would not have reasonably considered passing filtered fluid through the electrode, as recited in the claimed invention.

This argument cannot be found persuasive when Applicants have already admitted that those skilled in the art have adapted "EDM-type filtration and flushing systems" to electroerosion machines:

[0004] At present, existing EDM-type filtration and flushing systems that are adopted for electroerosion machines do not have sufficient filtration systems associated therewith.

Again, it is requested that Applicants identify the particular prior art being discussed.

Conclusion

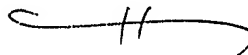
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Robert J. Popovics at telephone number (571) 272-1164.

A large, stylized handwritten signature in black ink, likely belonging to Robert James Popovics.

**Robert James Popovics
Primary Examiner
Art Unit 1797**

A small, simple handwritten mark or signature in black ink, possibly a date or initials.